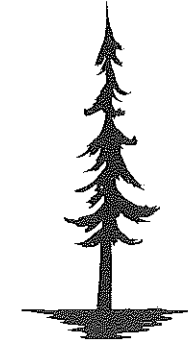


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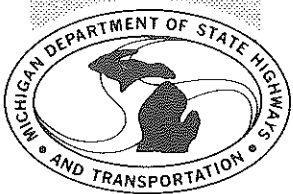
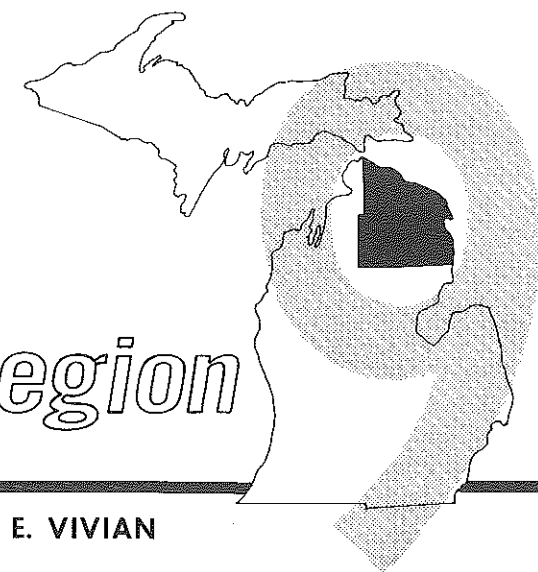
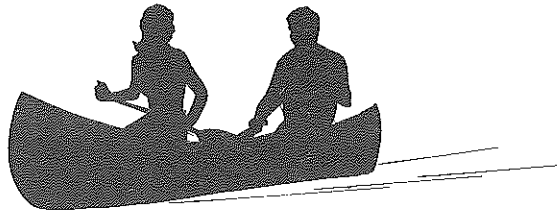
Michigan Department of
STATE HIGHWAYS AND TRANSPORTATION



DEVELOPING A TRANSPORTATION SYSTEMS PLAN

FOR

NORTHEAST LOWER MICHIGAN

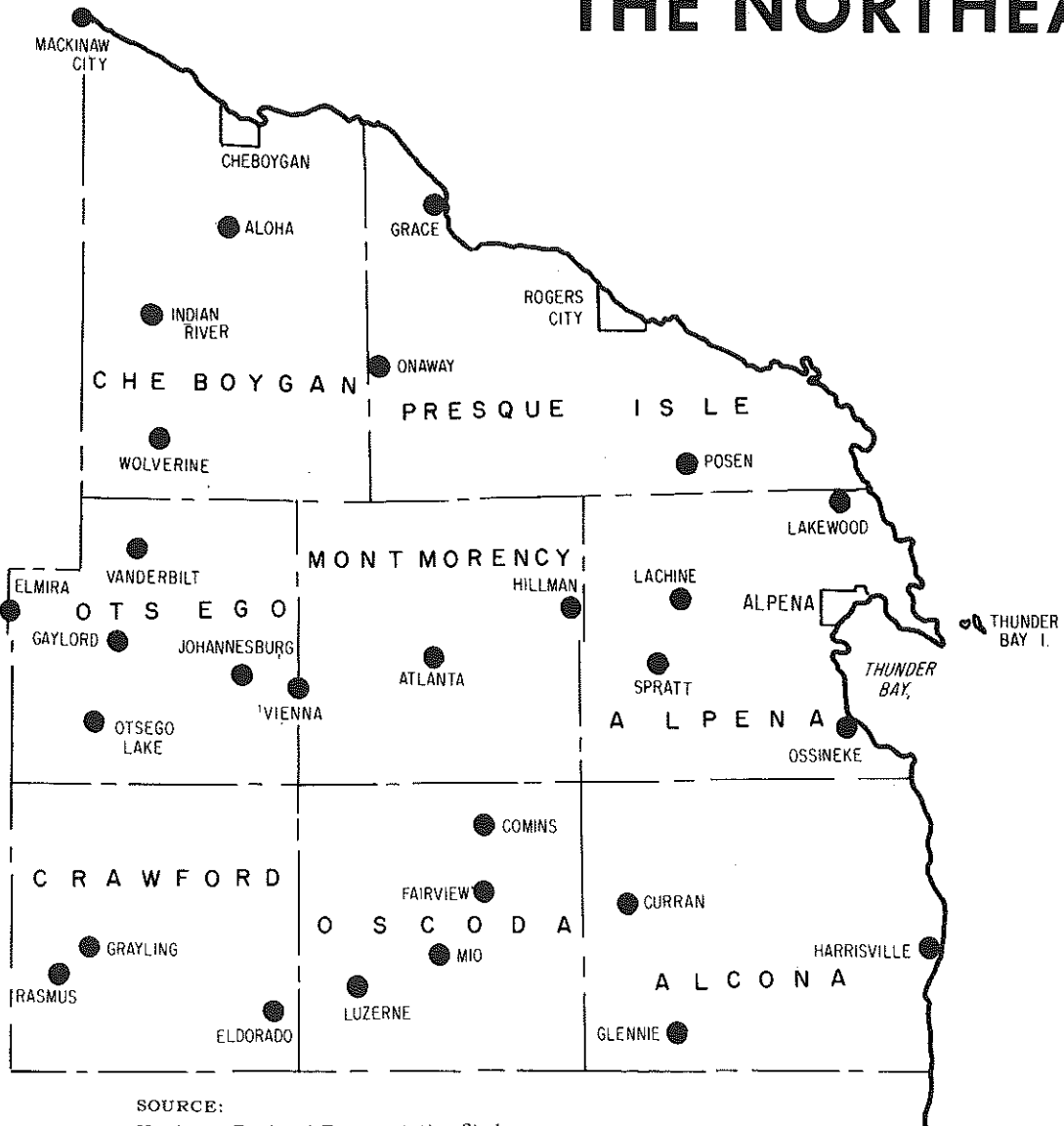


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**This report represents the findings and/or professional opinions
of the Michigan Department of State Highways and Transportation
staff and does not represent an official opinion of the
Michigan State Highway Commission.**

THE NORTHEAST REGION



SOURCE:
 Northeast Regional Transportation Study,
 Michigan Department of State Highways and Transportation, 1976.

PUBLIC INVOLVEMENT

Public involvement is an important part of the planning process. Continuous two-way communication is vital to produce a good, workable regional transportation plan. As well as providing the public with information concerning the study being conducted, public interaction also provides us with a better understanding of local goals and viewpoints.

Opportunities for public input will be provided in the near future in the Northeast Region. Your local news media will announce times and places. This brochure contains preliminary facts and considerations to be used as background information.

On the last page of this brochure is a questionnaire concerning this study. To assist in this preliminary stage, please complete the questionnaire and return it to us either directly or by mail. You may also mail it to the Northeast Michigan Council of Governments (NEMCOG), previously called the Northeast Michigan Regional Planning and Development Commission. Addresses are included with the questionnaire.

NORTHEAST REGIONAL TRANSPORTATION STUDY

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INTRODUCTION

The Constitution and Statutes of the State of Michigan grant the Michigan State Highway Commission authority for planning, building and maintaining a transportation system for our state.

The Michigan Department of State Highways and Transportation has developed a planning process which provides a guide for fulfilling these responsibilities at the state and local levels. This process includes analyzing the adequacy of existing transportation systems and the preparation of systems and facilities plans that will meet anticipated needs. It also considers the social, economic, and environmental effects of proposed changes.

The systems planning process begins with an analysis of existing systems and facilities as they relate to goals and objectives of the state and local governmental units. The

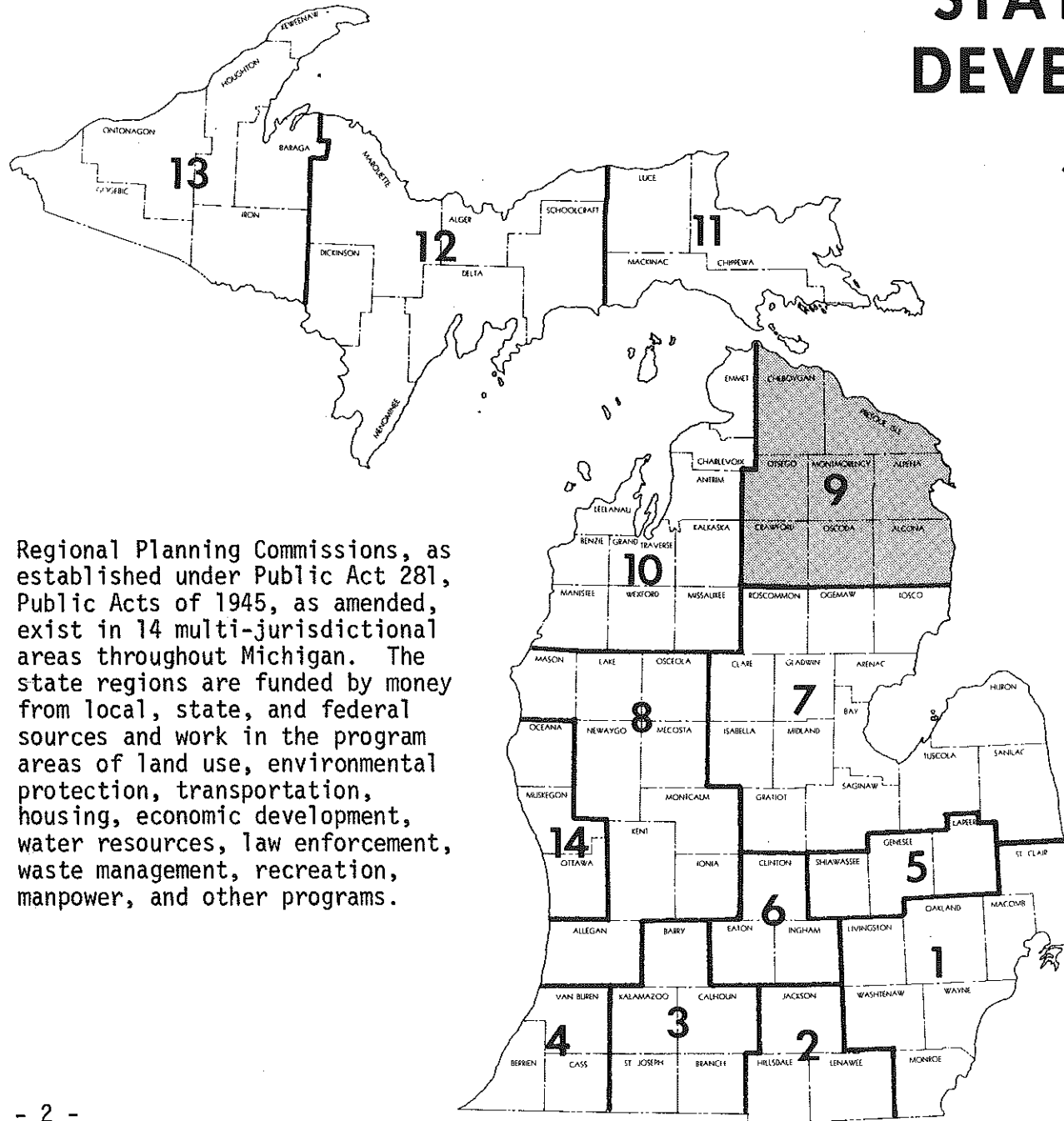
process extends through establishment of a set of priorities for system improvements by capital investment projects. All transportation systems fall under the planning responsibility of the Department and local governments. The prime objective of this cooperative effort is to provide transportation services that will best serve desired economic and social values while holding to a minimum the cost and adverse impacts on people and the natural environment.

Recognizing that new transportation developments affect all residents of a region, opportunities for public input will be provided for public agencies, private groups and individual citizens to assist in making necessary decisions early in the decision making process.

This brochure summarizes the major phases of the study and identifies accomplishments to date.

STATE PLANNING AND DEVELOPMENT REGIONS

State of Michigan



Regional Planning Commissions, as established under Public Act 281, Public Acts of 1945, as amended, exist in 14 multi-jurisdictional areas throughout Michigan. The state regions are funded by money from local, state, and federal sources and work in the program areas of land use, environmental protection, transportation, housing, economic development, water resources, law enforcement, waste management, recreation, manpower, and other programs.

LEGEND:

1. Southeast Michigan Council of Governments
2. Region II Planning Commission
3. South Central Michigan Planning & Development Council of Region III
4. MACOG, Michigan Regional Planning Commission
5. G-L-S Regional Planning Commission
6. Tri-County Regional Planning Commission
7. East Central Michigan Planning & Development Regional Commission
8. West Michigan Regional Planning Commission
9. Northeast Michigan Council of Governments
10. Northwest Michigan Regional Planning & Development Commission
11. Eastern Upper Peninsula Regional Planning & Development Commission
12. Central Upper Peninsula Planning & Development Commission
13. Western Upper Peninsula Regional Planning Commission
14. West Michigan Shoreline Regional Development Commission

REGIONAL TRANSPORTATION PLANNING

The goal of the Michigan Department of State Highways and Transportation is to provide balanced transportation services which ensure a reasonable level of mobility for all. Public and private transportation systems should be developed which are cost-effective. Further, they should enhance social and economic benefits while reducing environmental effects.

To achieve this goal, transportation systems must provide for the movement of people and goods into, within and through the various regions of the state as well as between regions. It is therefore essential that regional planning studies be conducted to ensure that regional goals and objectives are considered in the plan development.

The regional planning concept is consistent with the Governor's and the federal government's recommendation to develop public programs on a regional basis. To accomplish this, the Executive Office has designated planning regions for the entire state, shown on the accompanying map. The Governor has requested that all state agencies cooperate with the regional agency when planning various programs, and develop them consistent with regional goals and objectives. The Department of State Highways and Transportation is pledged to meeting this objective.

Establishment of this Northeast planning area (Region 9), allows the regional transportation systems planning process to best satisfy the overall transportation goals and objectives of the region and the State.

THE REGIONAL PLANNING PROCESS

The overall planning process, of which regional planning is only a part, is relatively complex. It can be more easily explained by dividing it into two basic phases - Systems Planning and Project Planning. The planning process and its sub-phases are illustrated in the accompanying exhibit.

It is very important to note that we are now in the Systems Planning phase of the study. This deals with the identification and evaluation of transportation needs on a state, regional and sub-regional scale to establish priorities for general locations for projects. Project Planning, on the other hand, deals with specific locations and the types of designs that transportation facilities should take.

Systems Planning is divided into two sub-elements. Statewide Planning deals with state and national transportation needs and issues and results in broad policy determination. The State Trunkline Highway Plan and State Airport Systems Plan are examples of Systems Plans on a statewide level. Regional Systems Planning relates Statewide Planning to specific areas of the state. It insures that goals of the region are considered in the Planning Process.

Project Planning is also divided into two sub-elements. Corridor location studies are required when a new facility must be relocated or where major problems are anticipated. Design Studies evaluate specific designs and precise locations for a facility within that corridor to determine what specifically should be done.

PLANNING

SYSTEMS PLANNING

Determines Need & Priorities
for General Project Location

PROJECT PLANNING

Deals with Specific Locations
and Types of Facility Designs

STATEWIDE SYSTEMS PLANNING

Deals with State & National
Transportation Needs – Results
in Broad Policy Determination

STATE MODAL PLANS

1. Airports
2. Busses
3. Highways
4. Railroads
5. Waterways

REGIONAL SYSTEMS PLANNING *

Relates Statewide Planning to
all Regions to Insure Consider-
ation of Local Goals

REGIONAL TRANSPORTATION STUDIES

1. Northeast Michigan Region
2. Northwest Michigan Region
3. East Central Michigan Region
4. etc.
5. etc.

CORRIDOR LOCATION STUDIES

Required When Facility must be
Relocated or Major Problems
Anticipated. Determines
General Corridor Location

DESIGN STUDIES

Evaluates Specific Locations
and Facility Types Within
the General Corridor



THE CONCERN OF THIS STUDY

Whether we are dealing with Systems or Project Planning, we go through a five step procedure as illustrated in the accompanying exhibit. This begins with identifying the issues of concern within the region. This is followed by developing a set of alternatives to represent those issues and determining impacts associated with each of the alternatives. A plan is then developed and a desirable course of action recommended.

These five steps are further defined as follows:

1. Issue Identification and Data Collection - Determination of regional transportation needs and desires, formation of goals and objectives, and social, economic and environmental and transportation facility data inventories.
2. Alternative Development - Development of transportation alternatives based on issue identification and data collection activities.
3. Impact Analysis - Evaluation of social, economic and environmental consequences of implementing a given course of action.
4. Plan Development - Evaluation of transportation alternatives and associated impacts and identification of courses of action providing a resolution to the problem(s).
5. Recommendation - The adoption of a course of action by a specific level of organization for the purpose of initiating the approval process.

THE PLANNING PROCESS



To insure pertinent ideas or information are not being overlooked, cycles of each phase in the process are conducted. This means that if any important steps or ideas have been missed at an earlier stage of the study, they will be incorporated in another cycle of the process.

It is important to note that necessary projects of a local nature will not be held up due to the completion of this procedure. Current maintenance and construction programs will continue and changes will be included in this study as they affect the Region's overall transportation system.

PARTICIPANTS IN THE SYSTEMS PLANNING STUDY

Public participation is the involvement of regional residents in every phase of the planning process. Citizens groups and the general public must be included in the process.

The role of the citizen in this process is to assist in selecting courses of action which will best serve national, state, regional and individual needs. A basic part of our governmental process is that citizens should have the opportunity to enter their views and objections during the decision making process. This is particularly important with regard to those who are disadvantaged or who will be directly affected by a course of action proposed by a governmental unit.

Michigan's Action Plan calls for a minimum of three opportunities for public involvement. These include:

1. Pre-study - at the time the study is initiated,
2. Public hearing - after plans have been developed and analyzed, and
3. Post-study - following selection of a course of action.

The public involvement process must be flexible enough to react to any given problem, complex or simple. Some additional techniques which can be used to insure flexibility are: 1) organizing citizen advisory groups; 2) public opinion surveys; 3) workshops, seminars, etc.; 4) public information meetings; and 5) attendance and participation in local planning commission meetings.

Local Planning Agencies

These groups help to ensure that community values are considered as input in the planning process. Their knowledge of the problems and goals of the communities in the region is a valuable asset in defining and responding to the needs of the region.

The Regional Planning Agency - Northeast Michigan Council of Governments (NEMCOG)

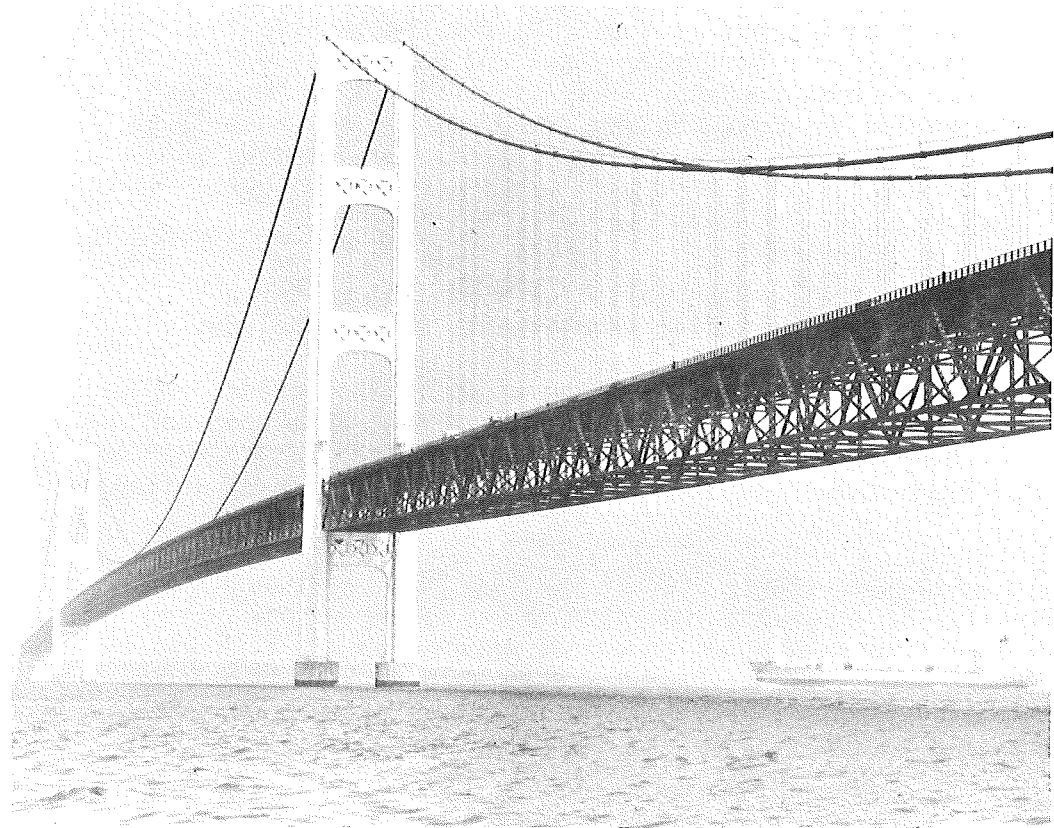
The Michigan Department of State Highways and Transportation has a contract with NEMCOG to fund a full time staff position. Responsibilities will include fulfilling assignments relating to the regional transportation study. Maintaining an "open door" with the public and local governmental units will be of primary importance. This will permit continuous identification of issues and an opportunity to distribute current information related to the study.

The Michigan Department of State Highways and Transportation

Within the Department, the Bureau of Transportation Planning has the overall responsibility for conducting transportation studies. Staff responsibilities rest with a study team, called a "Location Team". Various state and federal agencies are represented on the team as well as numerous specialists from within the Department. This team will analyze information and recommend a desirable course of action. Ultimate decisions will be made by the Michigan State Highway Commission based upon information provided by the team. The public's participation in producing the team's recommendation will help to insure that a transportation system is developed which will be safe, efficient and equitable to all.



Roadside Park — Alpena County



"Big Mac"

SOCIAL-ECONOMIC AND ENVIRONMENTAL CHARACTERISTICS

SOCIAL-ECONOMIC AND ENVIRONMENTAL CHARACTERISTICS

The evaluation of social, economic and environmental factors is an essential part of the determination of the transportation needs of an area. These factors determine the quality of life and the growth potentials of the area. In latter stages of this study, the social, economic and environmental effects of proposed transportation systems will be assessed as to their various costs, benefits and impacts.

SOCIAL AND ECONOMIC CONSIDERATIONS

Population

The Northeast Region of lower Michigan contained approximately 94,100 persons according to the 1970 Census of Population. This population is concentrated within the cities of Alpena (13,805), Cheboygan (5,553), Rogers City (4,275), Gaylord (3,012) and Grayling (2,143), respectively. The remainder of the region's population is sparsely distributed throughout the eight county area.

The age distribution of the population is "higher" than that of the state. The region has 11.3% of its population over

65 years old, and 32.11% over 45 years old. Comparable state figures for the same age groups are 8.46% and 28.8%, respectively. The higher proportion of the population in higher age categories requires that there is a smaller proportion in a lower age category. This shortage is present in the 20-44 age group, which contains 26.5% of the regional population. The proportion for the entire state is 31.4%. The rate of population growth of 13.43% in the Northeast Region was only slightly lower than that of the state's growth of 13.45% between 1960 and 1970. All counties with the exception of Presque Isle had increases in population.

The region's population is expected to increase in future decades at a faster rate than the growth rate between 1960 and 1970. It is expected to contain a population of between 110,000 (Michigan State Department of State Highways and Transportation Statewide Projection)* and 156,525 persons (Michigan Bureau of the Budget Projection) in 1990.

*/ Based upon population projections by the Population Studies Center, University of Michigan.

Education

The general level of education possessed by residents of the Northeast Region is lower than that for the state (see accompanying table). The median number of years of schooling completed for the region is 11.45 years, while the median for the state is 12.05 years. Otsego County, with a median of 12.15 years, the only county which exceeds the state median, also has the highest level in the region. Presque Isle County, with a median of 10.36 years, is the lowest in the region.

Public educational facilities within the region consist of 17 local school districts, three intermediate districts and one community college. Alpena Community College, a two-year school, is located in Alpena. Kirtland Community College, located just south of the region in Roscommon County, also serves some of the region's population.

Housing

Most of the year-round housing in the region consists of single-family dwellings. A large percentage (43%) of the 50,000 housing units in the Northeast are of seasonal or migratory nature. This percentage is much higher than the seasonal housing average (3.8%) for the state.

Health Care Facilities

The region contains five hospitals, with one located in each of the cities of Alpena, Cheboygan, Gaylord, Grayling and Rogers City. Those facilities provide a total of 403 beds to serve the population. Three other hospitals also serving

TABLE 1

MEDIAN EDUCATIONAL LEVELS: NORTHEAST REGION
1970
MEDIAN YEARS OF SCHOOL COMPLETED
BY PERSONS 25 YEARS OLD & OVER

	<u># Persons</u>	<u>Median Years Completed</u>
Michigan	4,594,561	12.05
NE Region	50,046	11.45
Alcona	4,316	10.61
Alpena	15,313	11.81
Cheboygan	8,788	11.72
Crawford	3,423	11.86
Montmorency	3,112	10.77
Oscoda	2,852	11.12
Otsego	5,399	12.15
Presque Isle	6,873	10.36

SOURCE: U. S. Department of Commerce, Bureau of the Census, United States Census of Population: 1970, General Social and Economic Characteristics, Michigan PC(1)-C24, pp. 544-550.

the regional populace, but which are outside of the region, are located in Petoskey, West Branch, and Tawas City. These add another 408 beds accessible by regional residents. These hospitals are widely spaced throughout the region. Patients (particularly emergency victims) who do not live near these areas must travel long distances in order to reach them. For elderly, handicapped, or the poor, long trips to health care facilities may prevent or discourage the proper and timely care of physical illnesses. This becomes a significant problem in this region of higher than average numbers of people in these groups.

The Transportation Disadvantaged

Due to the scattered living patterns in the region, the population is required to travel farther than more densely developed regions in order to use public services or to shop or work in the region's cities. This circumstance places a special burden on those portions of the population who, because of a handicap, poverty, or age, find it difficult to make the required trips.

The extent of those who may be transportation disadvantaged within the Northeast Region is shown on Table 2.

A major objective of Michigan's public transportation program is to provide basic transportation services to the transportation disadvantaged segment of the population.

TABLE 2
THE TRANSPORTATION DISADVANTAGED:
NORTHEAST REGION BY COUNTY

<u>Area</u>	<u>Total Population</u>	<u>Transportation Disadvantaged</u>	<u>Percent of Population</u>
Michigan	8,875,083	1,995,707	22.00
NE Region	94,117	27,396	29.11
Alcona	7,113	2,492	35.03
Alpena	30,708	7,039	22.92
Crawford	6,482	2,016	31.10
Montmorency	5,247	2,063	39.32
Cheboygan	16,573	5,097	30.75
Otsego	10,432	2,386	22.87
Oscoda	4,726	2,194	46.42
Presque Isle	12,836	4,109	32.01

SOURCE: Michigan Department of State Highways and Transportation, Interim Findings and Recommendations of the Governor's Interagency Transportation Council, Lansing, January 1976, p. 14.

Commuting Pattern

The most widely reoccurring circumstance for travel in the region is the work trip. Studies have shown that the vast majority of the work force in the region is employed within the county of their residency. Commuting from outside the region appears to be a relatively small traffic movement.

Economic Base

During the decade of 1960-70, the largest employment growth was in Professional Services, Wholesale and Retail Trade, and Manufacturing (particularly furniture). The largest employment declines were in the sectors of Agriculture, Forestry, and Fisheries, where employment fell 1,246 persons, and in Personal Services (loss of 234 jobs). The increase in tourism and the decline in agriculture has increased employment in real estate, retail trade and in professional services.

Agriculture, in terms of employment and acreage under production, has been declining, particularly since around 1960. Reasons for this change lie partly in response to governmental policies, improved technology, and the increased costs of operating a small farm. The decline in agricultural employment has been accompanied by losses in agriculturally related industries such as the manufacture of food and related products, and the sale of food and dairy products. The loss of jobs because of a declining agricultural base totalled 1,874 persons for the period 1960-70.

Income

Income per capita, mean incomes, and median incomes are considerably below these same income measurements for the state, as shown in Table 3. The high proportion of

TABLE 3
INCOME STATISTICS - NORTHEAST REGION

Area	1969 INCOME				
	\$ Mean Income	\$ Median Income*	\$ Per Capita Income*	% Families Below Poverty	% Families Receiving Social Security
Michigan	12,296	11,032	3,995	7.3%	18.6%
NE Region	8,816	7,470	2,678	13.3%	26.3%
Alcona	6,938	5,842	2,514	11.7%	38.2%
Alpena	9,463	8,765	2,782	14.2%	19.3%
Cheboygan	8,857	7,660	3,047	10.2%	28.5%
Crawford	9,024	7,930	3,085	7.7%	27.5%
Montmorency	6,982	5,851	2,294	11.2%	36.6%
Oscoda	8,086	6,411	2,136	12.0%	32.7%
Otsego	10,249	9,413	2,759	4.1%	21.1%
Presque Isle	8,356	7,889	2,312	12.3%	28.3%

* Northeast Michigan Regional Planning & Development Commission, The Northeast Michigan Region Regional Planning Handbook, Rogers City, Michigan, 1973.

families receiving Social Security income reflects the relatively high proportion of the population over 65 years old, and the popularity of the region for retirement. It may be also affected by the movement of younger families out of the region to other regions where economic opportunities are more plentiful.

Energy

In recent years the availability of energy has been a major factor in the decision-making process. Transportation systems and programs are now being developed in the state which are directed towards energy efficiency. In later stages of this study a comparison of energy demands of all transportation modes will be examined to ensure energy efficiency.

Social-Economic Summary

The Northeast Region is in a transitional period, shifting from a primarily agricultural economic base to one which is more diverse. Manufacturing, tourism, services and retail trade are now assuming a more prominent role.

As with most developing areas, the population may not be prepared to adapt to this transition. Lower than state average education levels of the resident population and the lack of a work force between the ages of 20-44 years may be barriers to development in the direction of manufacturing.

The rural nature of most of the Northeast Region is an asset for the further development of a tourist related industry. Rising incomes and more leisure time of downstate residents will continue to encourage trips into the region. Since recreation appears to be becoming a more year-round activity, the stability of tourist related industries may also be improved.

ENVIRONMENTAL CONSIDERATIONS

Primary Environmental Issue Areas

The Northeast Region is noted for its environmental variety, exhibiting extremes of climate, geology, terrain, drainage and land use (see accompanying exhibit).

The region has a humid continental climate, modified by the Great Lakes. Because of latitudinal differences, the northern counties experience cooler temperatures than the southern counties. The average annual growing season varies from nearly 140 days along the Lake Huron shoreline and in the southern counties to 62 days in the interior uplands and northern counties. Snowfall depths range from 60 to over 130 inches increasing from southeast to northwest across the region.

Geological features of special environmental importance in the region include "high risk erosion areas", where the Michigan Department of Natural Resources (DNR) has found that erosion is causing or is likely to cause damage or destruction to permanent buildings or structures. Forty-five percent of the Alcona County shoreline is designated as "high risk".

A significant geologic feature is the Niagaran coral reef which stretches east-west across the middle of the region. Numerous oil and gas deposits have been identified particularly in the Crawford and Otsego Counties, including the Pigeon River State Forest.

In terms of surface drainage, with the exception of the extreme western portion of Crawford and Otsego counties, and the northwest corner of Cheboygan County which drain toward Lake Michigan, all counties in the region are part of the Lake Huron watershed. The major regional drainage basins within the Lake Huron watershed include the AuSable, Thunder

Bay and Cheboygan Rivers. Most streams in the region are short with generally stable flows and small drainage areas. Numerous wetlands are found in the northeast corner of the region.

Among the environmentally important rivers in the region are those being studied for inclusion in state and national river programs. The Michigan Natural Resources Commission has been given the authority to designate recreational, scenic or wild rivers. The Black and Pigeon Rivers are presently under study, while the Thunder Bay River is proposed for study for possible inclusion in this program. The AuSable River is currently being studied for inclusion in the National Wild Scenic River Program.

Inland lakes are plentiful in the region. The surface area of the region's 475 inland lakes is estimated at 122,044 acres, or 3.8% of the region's total area.

In most of the forested areas in the region, control measures are needed to preserve the ecology of the areas which provide wildlife habitat. In 1966, over 75% of the region was covered with commercial forests. These accounted for almost 99% of the forested area. Aspen-birch was the predominate type, occurring on 32% of the commercial lands. Pine and oak forests accounted for another 16%, followed by northern hardwood forests with 15%.

Extensive public holdings provide the region with excellent recreational opportunities. Forty-six percent of the commercial forests are in federal or state ownership. There are 10 state parks, 43 state or national forest campgrounds, 7 county parks, 1 municipal park, and 111 public boat launching sites located in the region. In 1973, all forms of public recreation lands accounted for 34.6% of the

region's area. Major public land holdings with no public recreational value are military reservations. Two such federally owned tracts are found in this region; the Hanson Military Reservation containing approximately 48 square miles and the Artillery Range containing approximately 122 square miles.

The Wilderness and Natural Areas Act (Act 241 P.A. 1972) provides for the selection and dedication of wilderness, wild and natural areas. Eight such areas have been designated within the Northeast Region and eleven more have been proposed for dedication.

Fish and wildlife resources are extensive. They include several species found only in this region, and species as determined by the U. S. Department of the Interior or the Michigan Department of Natural Resources which are considered rare, endangered, or threatened.

Trout is the major sport fish, occurring in all of the

region's drainage basins. Walleye and northern pike are found in many lakes. Salmonoid species inhabit Lake Huron and streams bordering the Lake Huron shoreline. The lake sturgeon, included on the state list of threatened species is found in Black and Mullet Lakes.

Kirtland's warbler, classified as an endangered species on both the federal and state lists, inhabit certain jack pine areas in Crawford and Oscoda Counties.

A herd of elk now re-established in Michigan is found in the Pigeon River area. Black bear, bobcat, wild turkey and white-tailed deer are located throughout the study area. Critical bird nesting areas are found along the Lake Huron shoreline.

Proposed "environmental areas" are located along the Lake Huron shorelands. Such areas were determined by DNR on the basis of studies and surveys, to be necessary for the preservation and maintenance of fish and wildlife. These

A few of Michigan's Elk

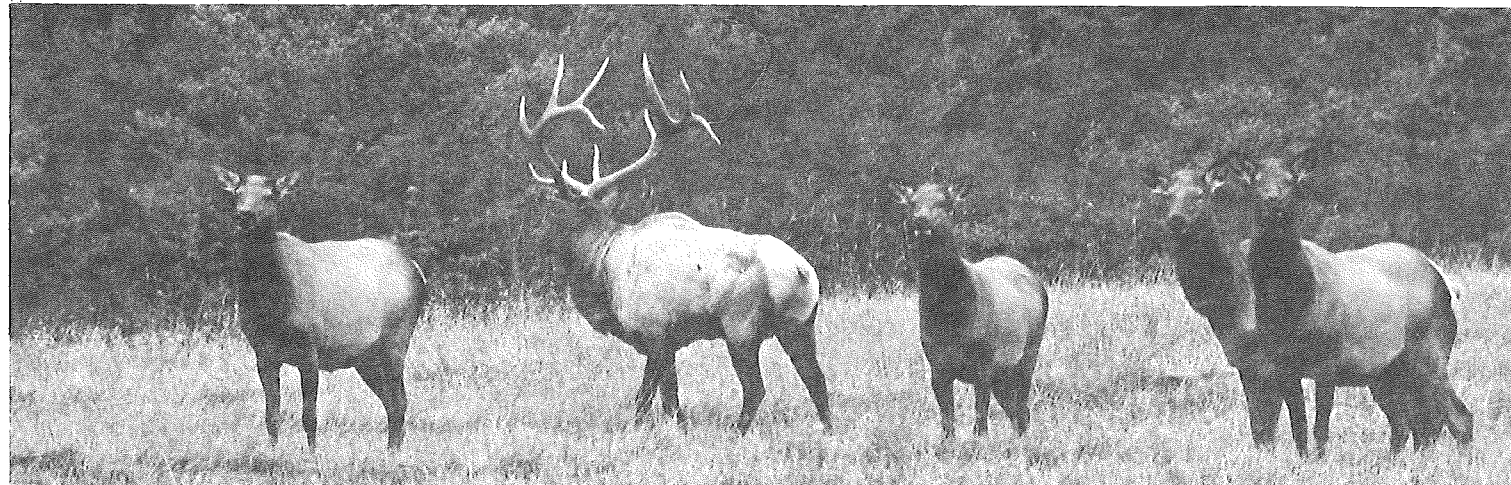


Photo Courtesy of Department of Natural Resources

areas are inhabited or frequented by coastal dependent fish or wildlife species, during some important portion of their life cycles. Such areas can extend no more than 1000 feet landward of the ordinary high water mark. Although the 211 miles of proposed environmental areas of Lake Huron's 634 miles of shoreline occur principally along the shoreline of Saginaw Bay, additional reaches are found in Presque Isle and Alpena Counties.

Besides its natural environmental values, the Northeast Michigan Region has substantial resources of an historic and archaeological nature. Three sites listed on the National Register of Historic Places, eight sites on the State Register of Historic Places and six sites of local significance are found in the region.

Protected Areas

The Congress of the United States recognized the values of public recreation, wildlife refuges and park areas as a resource that must be protected by passing into law Section 4(f) of the Federal-Aid Highway Act of 1966. Section 4(f) requires that the Secretary of Transportation shall cooperate and consult with the Secretaries of the Interior, Housing and Urban Development, and Agriculture, and with the States in developing transportation plans and programs that include measures to maintain or enhance the natural beauty of the lands traversed. After the effective date of the Act, the Secretary could not approve any program or project which

required the use of any land from a public park, recreation area, wildlife and waterfowl refuge, or historic site unless (1) there was no feasible and prudent alternative to the use of such land, and (2) such program included all possible planning to minimize harm to such park, recreational area, wildlife and waterfowl refuge, or historic site resulting from such use.

Ocqueoc Falls

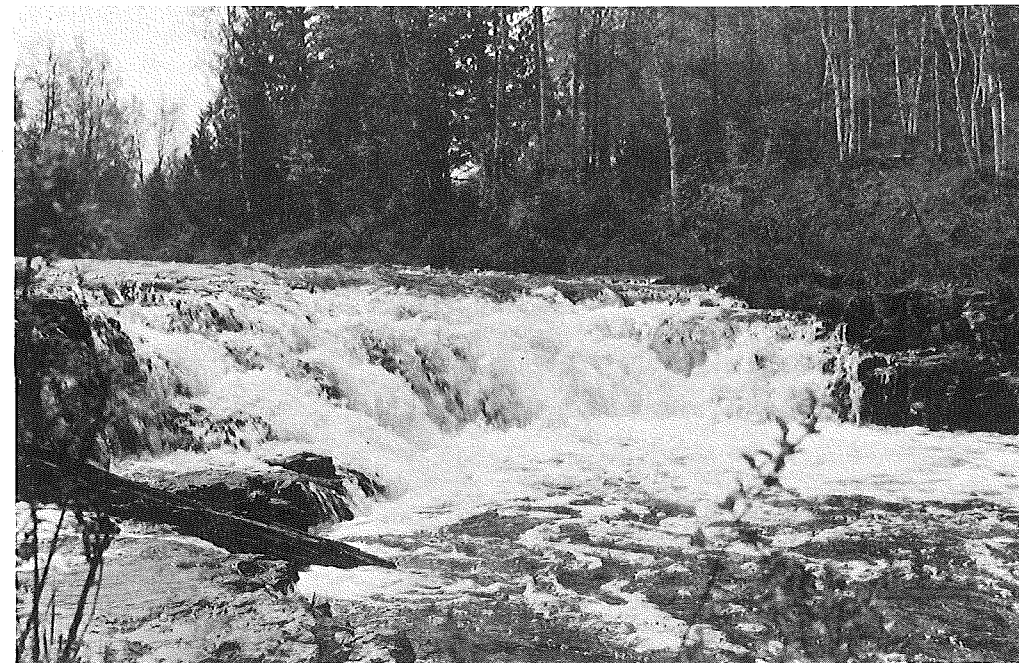
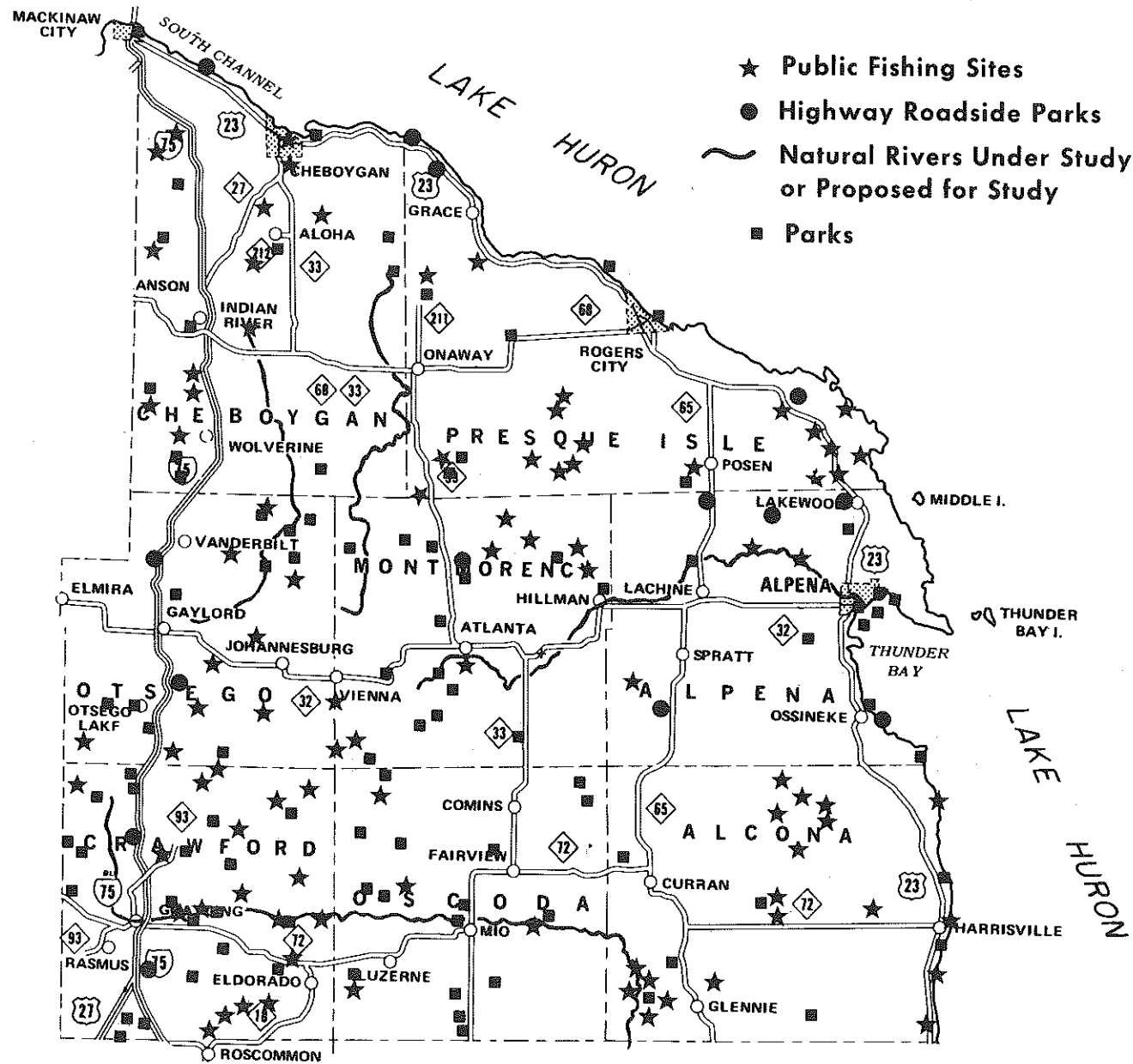


Photo Courtesy of Department of Natural Resources

PROTECTED AREAS



- ★ Public Fishing Sites
- Highway Roadside Parks
- ~ Natural Rivers Under Study or Proposed for Study
- Parks

SOURCE:
 Northeast Regional Transportation Study,
 Michigan Department of State Highways and Transportation, 1976.

Right-of-Way representatives of the Location Team have conducted a study of the Northeast Region to identify protected areas (existing or potential 4(f) properties) as described by the 1966 Act and implemented by the Department of Transportation. This study, as shown on the accompanying exhibit, identifies the following Federal and State controlled areas: Federal Forest Campgrounds, recreational sites and lands acquired with Land and Water Conservation Funds; Department of Natural Resources State Parks, campgrounds, public fishing sites, and waterfowl refuge areas; the Michigan Natural River System; and the Department of State Highways and Transportation roadside parks. In addition, the study also identified all county and township parks, campgrounds, boat launch sites and other recreation areas.

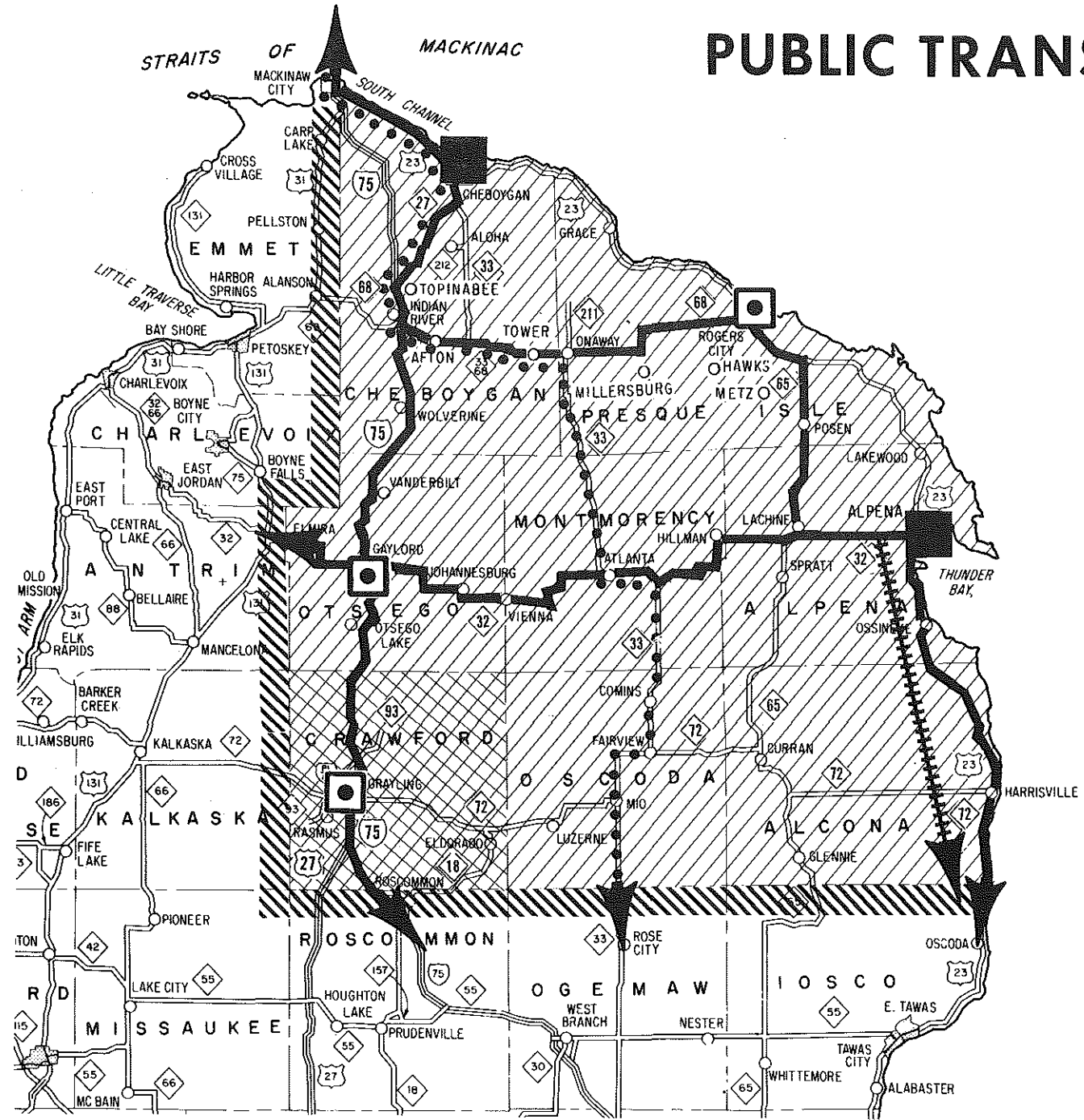
The information gathered in the study was obtained through personal discussions with Federal Forest personnel, Department of Natural Resources personnel, County Road Commissions, County Planning and Recreation Committees, and Township Supervisors. Because of the generalized information provided in some cases, it is possible that some of the 4(f) areas may not be located exactly in the places shown on the map. Any discrepancies between the map and reality, however, will be rectified as more exact information becomes available.

Au Sable River











Photo Courtesy of Department of Natural Resources

PUBLIC TRANSPORTATION



-LEGEND-

-  Existing Urban Public Transportation
-  Potential Urban Public Transportation
-  Existing Rural Public Transportation
-  Existing Rural DART Public Transportation
-  Existing Daily Intercity Bus Routes
-  Existing Less Than Daily Intercity Bus Routes
-  Potential Intercity Rail Route
-  Region 9 Boundary

SOURCE:
 Northeast Regional Transportation Study,
 Michigan Department of State Highways and Transportation, 1976.

TRANSPORTATION SYSTEMS

PUBLIC TRANSPORTATION

Public transportation in northeast Michigan generally means bus transportation. There is no railroad passenger service, and air service is limited.

Public transportation currently consists of urban and rural demand-responsive service. These services have been grouped into three levels of service (urban, rural and intercity) with existing and programmed services. Possible alternatives are discussed in this section and presented on the accompanying public transportation exhibit.

Urban Public Transportation

Urban public transportation, in communities with more than 5,000 residents, consists of a full scale transit service designed for those trips being made between places within a community. Urban transit service currently exists in both of the urban areas of 5,000 or more residents in the Northeast Regional Systems Study Area.

Dial-a-ride public transportation was initiated in Alpena in July, 1974. Ridership on the five vehicle system was 8,330

in February of 1976, or an average of 354 per weekday. One of the five vehicles has been modified to accommodate the needs of the handicapped.

In Cheboygan, a two-vehicle dial-a-ride system began operations on June 7, 1976. No ridership figures are available at this time.

Urban public transportation in communities of 2,000 to 5,000 inhabitants can potentially exist at several levels. In these communities, public transportation could be combined with rural public transportation services. For example, urban public transportation service could be provided for several hours during the middle portion of the day. Utilizing the same vehicle, rural demand-responsive service could be provided in the early morning and late afternoon.

Three northeast Michigan communities have a population between 2,000 and 5,000 and are presently without public transportation service. Alternatives for urban public transportation in Gaylord, Grayling, and Rogers City should include transit (bus) services.

Rural Public Transportation

Rural public transportation generally serves a single county and is characterized by trips designed to transport people from rural areas into urban areas. Existing or programmed rural services in northeast Michigan consist of the following components as portrayed on the public transportation map:

- Countywide dial-a-ride service has been provided in Crawford County since May 10, 1976. No ridership figures for this three vehicle system are available at this time.
- Under Section 16(b)(2) of the Federal-Aid Highway Act of 1973, the Federal Elderly and Handicapped Program, two vehicles in both Cheboygan and Presque Isle Counties and one vehicle in Alpena County will be funded. This program is aimed at providing essential transportation to the elderly and handicapped where no other means of transportation now exists. This program is state and federally funded with only private non-profit corporations eligible.
- Under the State Elderly and Handicapped Program, four counties in northeast Michigan will receive service. All four of these systems (Alcona, Montmorency, Oscoda and Otsego) are either in service or programmed for service soon. The goal of the State Elderly and Handicapped Program is similar to that of the Federal Elderly and Handicapped Program. However, unlike the Federal Elderly and Handicapped Program, the State program is funded entirely by the State of Michigan through the General Transportation Fund.

The existing and programmed rural services provide access to intercity public transportation and urban public transportation where available. The service is usually offered about eight hours a day, often on selected days of the week only. Frequently a county is divided with only one part of the county receiving service on a particular day. The elderly and handicapped are the most frequent users of this service.





Intercity Public Transportation

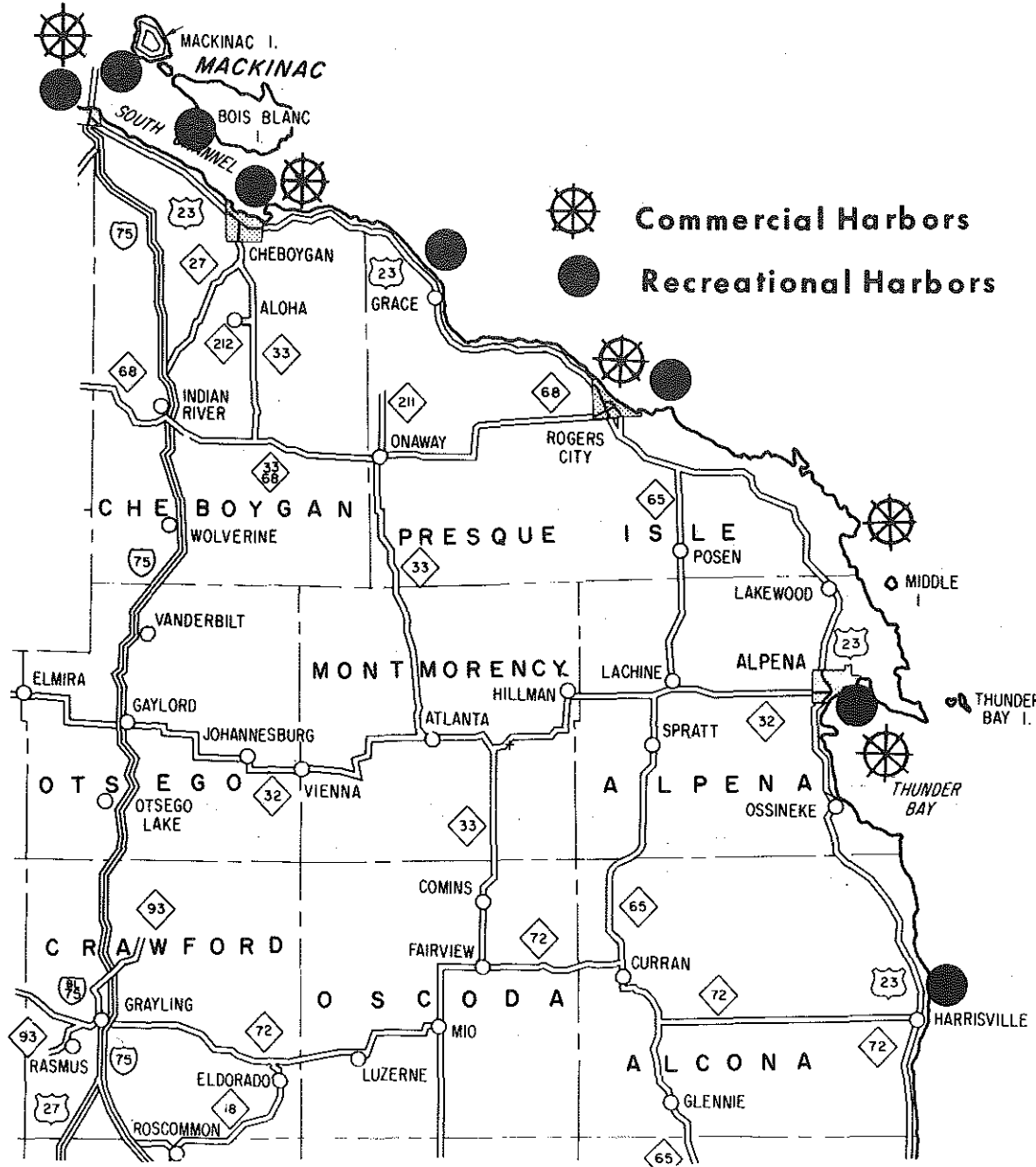
Intercity public transportation service is long distance trips between medium sized and large communities. Existing intercity service in and through northeast Michigan includes the following:

- One round trip daily between Petoskey and Bay City with a local trip at Harrisville;
- One round trip daily between Petoskey and Bay City with stops at Gaylord and Grayling;
- One round trip daily between St. Ignace and Bay City with stops at Posen, Metz, Hawks, Rogers City, Millersburg, Onaway, Tower and Afton;
- One round trip daily between Alpena and Gaylord with stops at Lachine, Hillman, Atlanta, Vienna Corners, and Johannesburg;
- One round trip on Wednesdays between Mackinac City and Bay City with stops at Cheboygan, Mullet Lake Road, Topinabee, Indian River, Afton, Tower, Onaway, Atlanta, Comins, Fairview and Mio.

There is currently no intercity rail route in the region. However, according to preliminary railroad development considerations, there is a potential for intercity rail passenger service between Bay City and Alpena.

COMMERCIAL AND RECREATIONAL HARBORS

COMMERCIAL AND RECREATIONAL HARBORS



SOURCE:
 Northeast Regional Transportation Study,
 Michigan Department of State Highways and Transportation, 1976.

Port development in the State of Michigan is associated with two specific types of activity: (1) Recreational harbors and harbors of refuge and (2) Commercial harbors. The responsibility for recreational harbors and harbors of refuge within state government is vested primarily in the Michigan Waterways Commission of the Department of Natural Resources. The overall planning responsibility for commercial harbors lies within the Michigan Department of State Highways and Transportation.

Recreational harbors in the Northeast Region have been established at Mackinaw City, Cheboygan, Hammond Bay, Rogers City, Alpena and Harrisville (see accompanying exhibit). Cheboygan is the Lake Huron entrance to the Inland Route - a series of interconnected lakes and streams stretching an overall distance of 35 miles across the northern tip of the Lower Peninsula to Lake Michigan at Conway. The Inland Route is a recreational waterway maintained at a controlled depth of five feet.

Moderate depth commercial harbors include Mackinaw City Harbor, Cheboygan Harbor and Alpena, and deep water harbors are located at Calcite and Stoneport. Waterborne commerce through Mackinaw City and Cheboygan consists primarily of receipts of coal, limestone, sand and gravel, and petroleum products. Mackinaw City Harbor is the base for ferry operations to both Mackinac and Bois Blanc Islands. Alpena Harbor is the origin of major shipments of building cement and receipts of coal, limestone and petroleum products.

The deep water harbors of Stoneport and Calcite are the origin of major shipments of limestone and receipts of coal.

A recent study entitled "Origin-Destination Study of Bulk Commodity Movement - Upper Great Lakes Region" predicts increased movement of limestone, cement, coal, petroleum products and forest products which will have an impact on the harbors in this region. A potential exists for increased demands for harbor and channel improvements.

RAILROADS

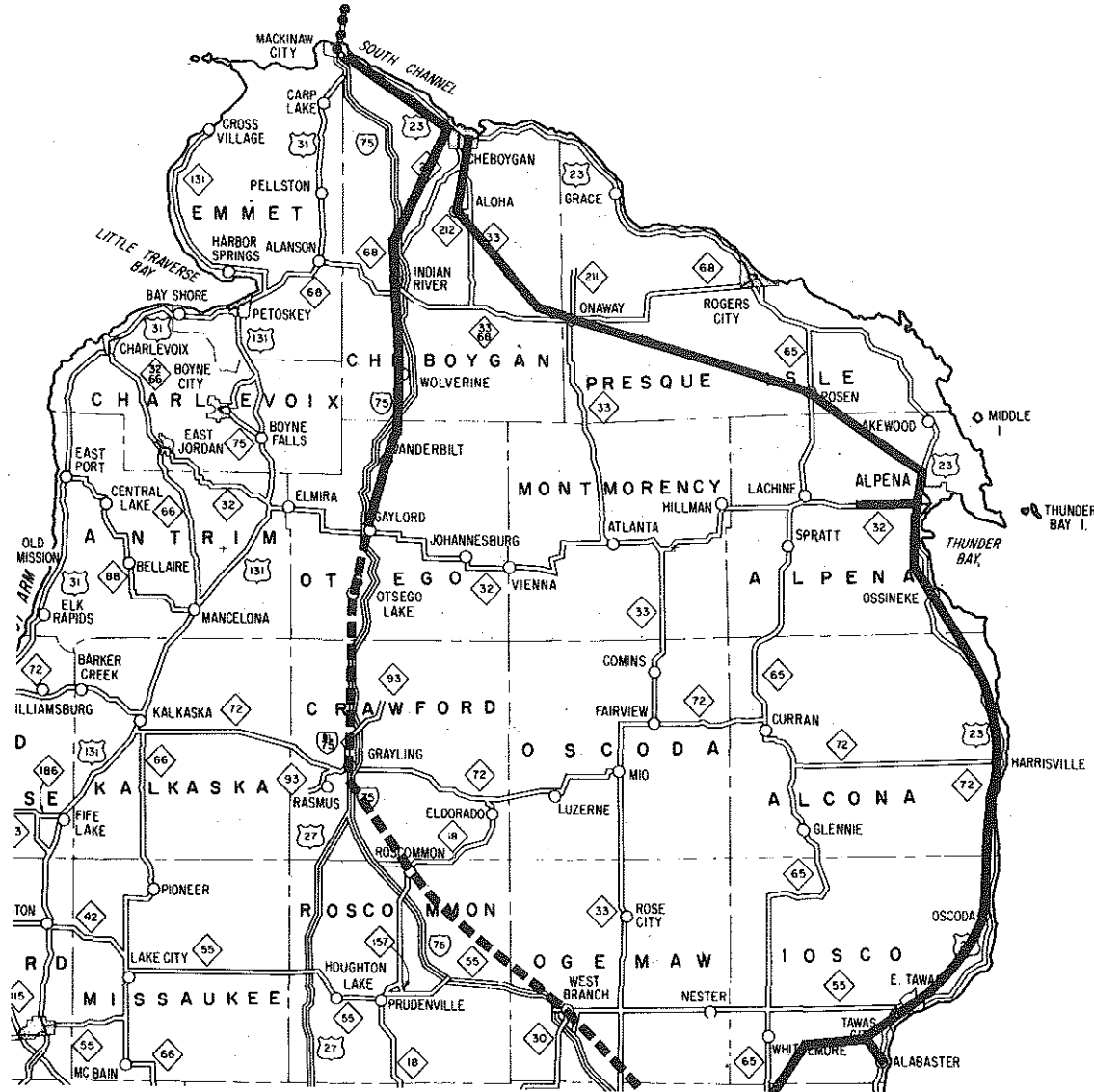
The reorganization of seven bankrupt carriers in the Northeastern United States under Federal law on April 1, 1976, greatly affected the railroad system in Michigan. Two carriers in Michigan (Penn Central and Ann Arbor) were involved in this reorganization. They created a new non-profit corporation "ConRail" to operate a large amount of the bankrupt railroad systems.

The Penn Central line extending from Mackinaw City to Bay City is the only bankrupt carrier passing through the Northeast Region (see accompanying exhibit). This line was excluded from the ConRail system and as a consequence offered for sale to the Detroit and Mackinac Railway Company. The D and M Railway Company, which provides service along the eastern coast of Northern Lower Michigan acquired only that portion of the line extending from Mackinaw City to Gaylord. The segment south of Gaylord to Linwood was left to the state to find a carrier to provide service under Federal and State funding. The south end section of the line was bought by Grand Trunk Western and the D and M Railway Company. This particular segment from Gaylord to Linwood was found to have a high priority need by state planners. A contract was negotiated and awarded to D and M to provide rail service for the period of April 1, 1976, to April 1, 1977, under rail service continuation subsidy.

The only other rail service affected was the Mackinac Straits Ferry operation. In order to avoid abandonment, the State of Michigan has contracted with the Soo Railroad Company to provide service for at least one year (April 1976-1977). While long term profitability is the goal for continuation of these lines, the extension of rail service beyond the subsidy program may depend on state and local subsidy resources. This will offset losses being incurred if the line should fail to become self-supporting.

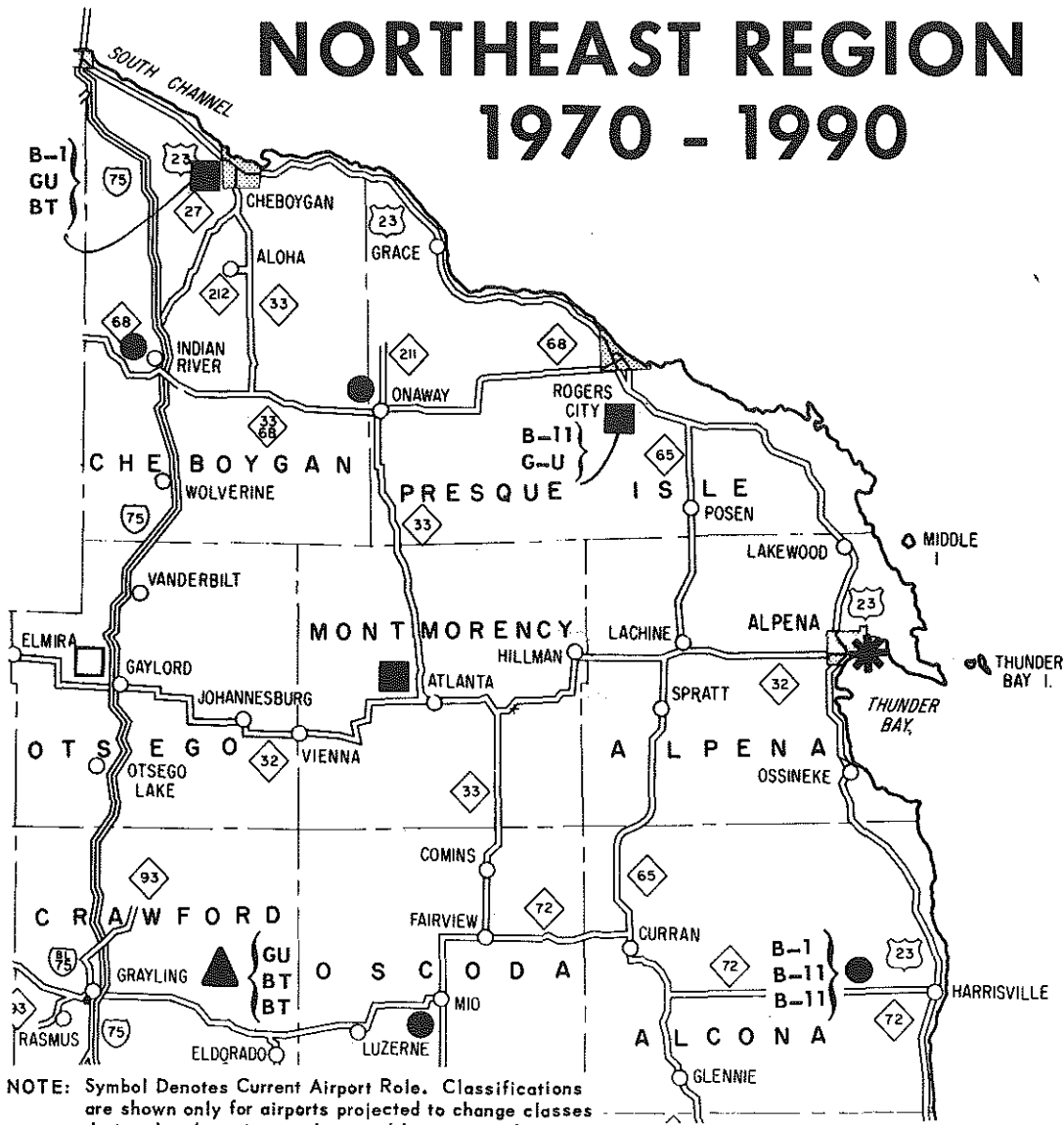
As previously mentioned in the "Public Transportation" section of this study, there is no passenger rail route in the region. In the future, however, potential does exist for implementing a program.

SOURCE:
Northeast Regional Transportation Study,
Michigan Department of State Highways and Transportation, 1976.



- Detroit & Mackinac R.R.
- Segment of Penn Central Being Operated Under Rail Service Continuation Contract by Detroit & Mackinac R.R. Co.
- Soo Line Railroad

AIRPORT SYSTEM PLAN NORTHEAST REGION 1970 - 1990



NOTE: Symbol Denotes Current Airport Role. Classifications are shown only for airports projected to change classes during the short, intermediate and long range planning period.

- = Basic Utility - Stage I = B-I
- = Basic Utility - Stage II = B-II
- ▲ = General Utility = G.U.
- = Basic Transport = B.T.
- ★ = Air Carrier Service = AC

SOURCE:
Northeast Regional Transportation Study,
Michigan Department of State Highways and Transportation, 1976.

FUTURE AVIATION ACTIVITY PLANNING PERIODS

Planning Period	Fiscal Year	Base Year for Aviation Forecasts
Short Range	1973-1977	1975
Intermediate	1978-1982	1980
Long Range	1983-1992	1990

Airport Operational Roles CLASSIFICATION OF AIRPORTS SERVING GENERAL AVIATION

Operational Role Code for Operational Role	Examples of Largest Aircraft Accommodated	Level of Activity	Percentage of GA Fleet Accommodated	Typical Length of Longest Runway
BI-(Basic Utility) Stage I	Cessna-172 Piper Tri-pacer, etc.	Less than 10 aircraft based at airport	75G	2700'
BII-(Basic Utility) Stage II	Cessna-310 Beech Baron, etc.	More than 10 based aircraft. Less than 20,000 operations per year	95G	3200'
GU-(General Utility)	Beech King & Queen Airs, Piper Navajo, etc.	More than 20,000 operations per year or 500 operations per year by general utility type aircraft	98G	3800'
BT-(Basic Transport)	Lear Jet, Saberliner, Cessna Citation, etc.	500 or more operations per year by business jet aircraft	99+G	5000'
GT-(General Transport)	Convair 580, Boeing 727, DC-9, etc.	Substantial operations by very large general aviation aircraft (over 60,000 pounds gross weight)	100G	5000'+
AC (Air Carrier)	100 passenger jet (DC-9, B-727)	Scheduled Daily passenger, cargo, or mail service	100%	8000'+

AVIATION

The Michigan State Airport Plan

In 1974, the Michigan Aeronautics Commission and the Michigan State Highway Commission adopted the Michigan State Airport System Plan. A two-year effort, the purpose of the study was to produce a plan for the orderly and timely development of a system of airports adequate to meet the short, intermediate, and long-range transportation needs of the state. The Plan provides a basis to assist state, regional and local agencies in planning for aviation facilities to meet expected demand levels over the next two decades.

In order to illustrate and relate these levels of demand to communities and regions, it was necessary to classify the airports. The system used was one originally developed by the Federal Aviation Administration (FAA) and is based on the largest aircraft that can utilize an individual airport. The classifications fall under two general categories: "air carrier" and "general aviation" airports. An "air carrier" airport is one served by an FAA-certified airline offering scheduled passenger service. A "general aviation" designa-

tion applies to airports handling all aircraft other than air carriers. An explanation is provided on the accompanying exhibit.

Also shown on the Aviation exhibit are existing airports in the region that are included in the State Airport Plan. Future Aviation Activity Planning Periods are also listed. As can be seen from the map, only four airports are projected to change classes during the planning periods, i.e., Cheboygan, Rogers City, Grayling and Harrisville.

There are ten airports in the region currently listed in the State Airport Plan. The single air carrier airport is located at Alpena, with the nine general aviation airports being scattered uniformly throughout the rest of the region. The general aviation facilities currently range from the 2,150 foot turf runway at Harrisville, having four based aircraft, to Gaylord with its 5,000 foot bituminous runway, having the ability to handle the largest business jets and basing over 20 aircraft. Alpena, with its 9,000 foot and 5,030 foot runways, can serve aircraft as large as the DC-9 or the Boeing-727.

Activity Levels of Aviation

The high cost of aviation fuel and the effects of the sluggish economy had adverse effects on aviation in Michigan during 1975.

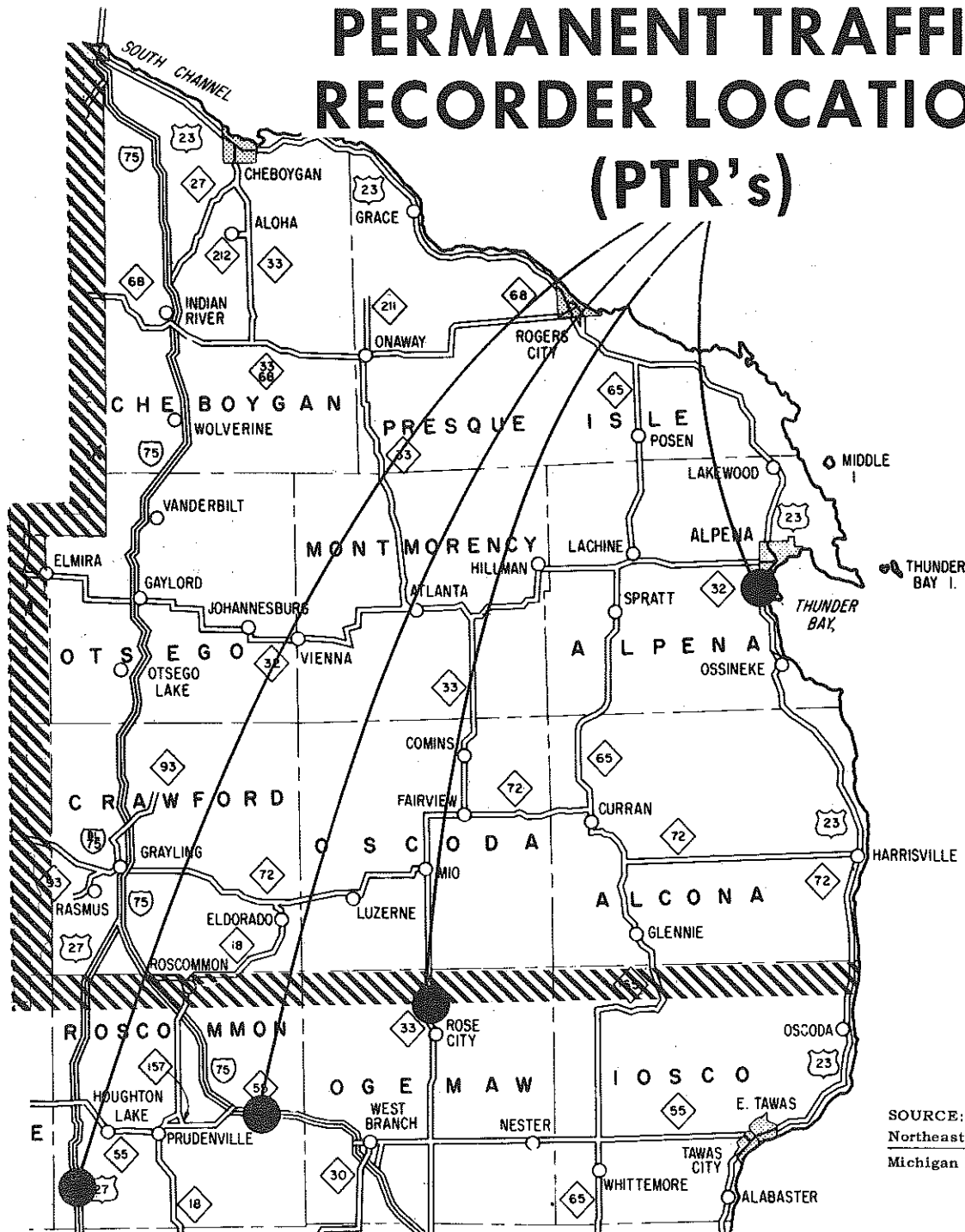
A slight decrease in total airline passengers in Michigan during 1975 was also attributed to the sluggish economy and less long-distance vacation travel. Ironically, general aviation operations increased slightly during the same period. High automobile fuel costs, combined with the lower speed limits, resulted in a greater use of corporate aircraft for business travel and increased utilization of privately-owned aircraft for recreation and personal uses. The percentage increase in the numbers of general aviation aircraft based in Region 9 was slightly higher than the statewide increase in 1975.

Although the aviation industry was in the midst of uncertainty and adversity during 1975, the short and intermediate-range future should reflect brighter and

better conditions. Cargo traffic is expected to still be down in 1976, but passenger and general aviation traffic is projected to increase significantly.

Although the State Airport Systems Plan does not project the construction of any new airports in the Northeast Region through 1990, improvements or expansion are recommended for all ten airports. Recommendations include, but are not limited to, the purchase of additional land, airfield paving and lighting, building construction, lengthening and widening runways and taxiways, installation of approach and navigational aids, removal of obstructions, fencing, and taxiway marking. In order to implement these recommendations, it is necessary for the local airport sponsors to initiate master planning studies. The Master Plan outlines the detailed development necessary for a specific airport and is a prerequisite for federal and state funding assistance.

PERMANENT TRAFFIC RECORDER LOCATIONS (PTR's)



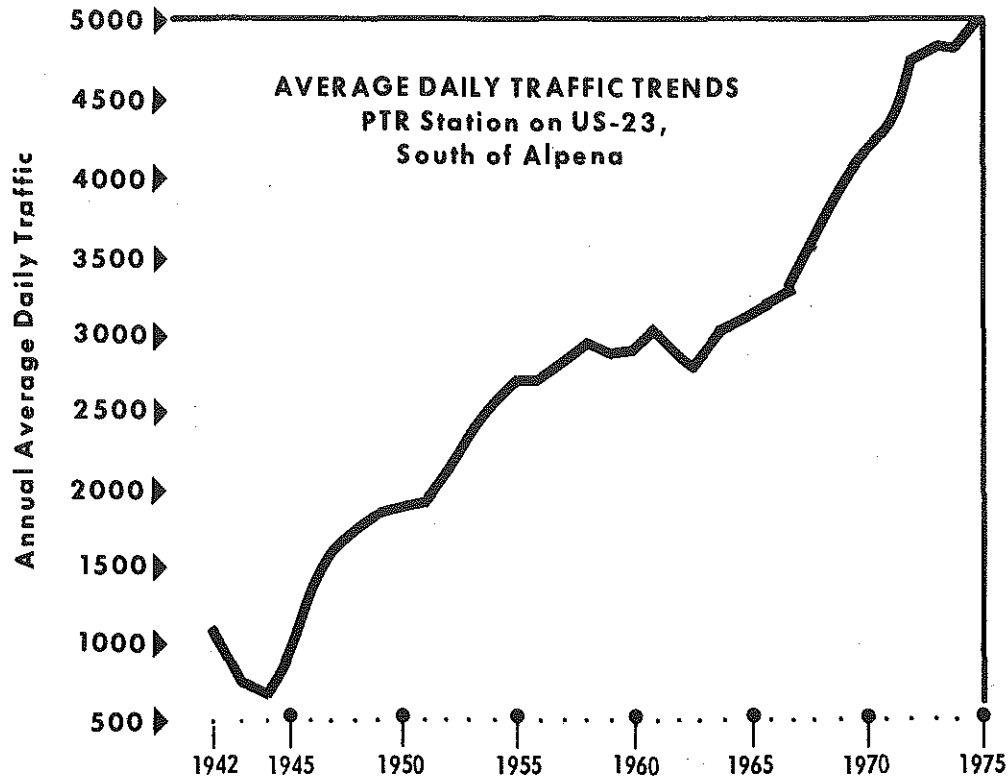
HIGHWAYS

Traffic Trends

Traffic monitoring is an essential process that provides information relating to the capability of the highway system to safely and efficiently accommodate traffic volumes, thereby providing a method of identifying potential problems. To insure reliability of information, the Michigan Department of State Highways and Transportation maintains permanent traffic recorders (PTR's) on state trunklines at key locations throughout the state. PTR's are stationary electronic devices located below the highway surface which count vehicles 24 hours a day, 365 days a year.

Four PTR's are located in or near the Northeast Region (see accompanying exhibit). The PTR station located on US-23 south of Alpena has been selected for demonstration purposes. Shown above are traffic volumes recorded at this station. This chart represents average daily traffic by year for each year the PTR has been operational.

SOURCE:
 Northeast Regional Transportation Study,
 Michigan Department of State Highways and Transportation, 1976.

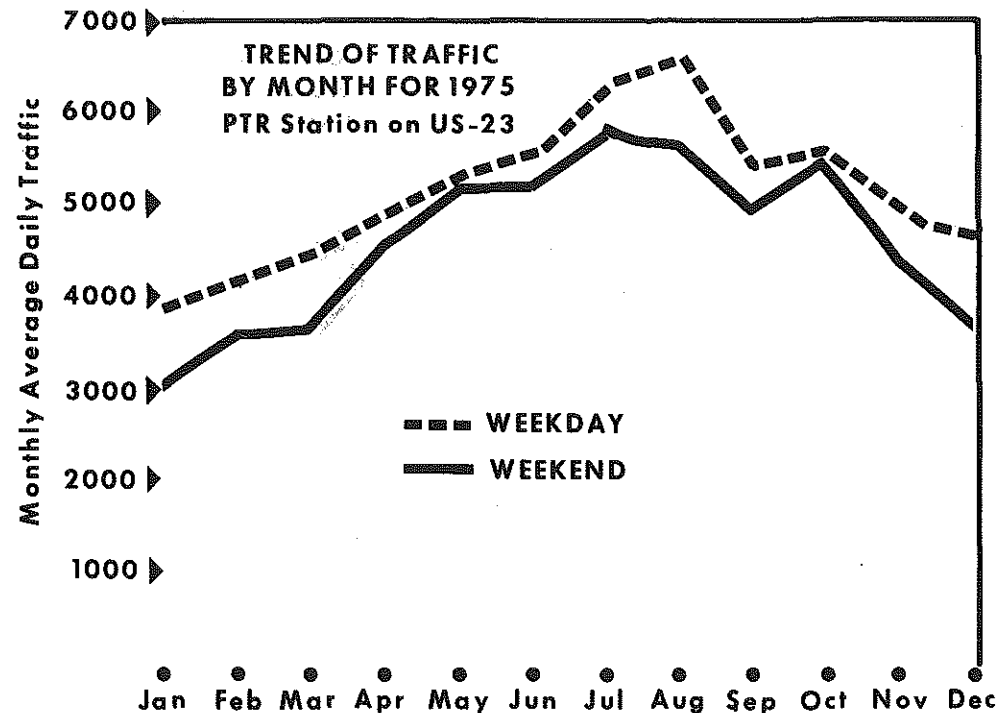


SOURCE:
 Northeast Regional Transportation Study,
 Michigan Department of State Highways and Transportation, 1976

As indicated, there has been a steady increase in traffic using this route over the past several years. The majority of this increase can be attributed to the business and commercial development of the Alpena area, and an increase in the attraction the region has for outdoor recreation enthusiasts.

The permanent traffic recorder also points out the peak traffic periods throughout the year. As shown below, traffic peaks occur during the summer months between June and September. Average week-end traffic peaks rose to approximately 5,800 vehicles in July and August, whereas average week-day peaks reached nearly 6,500 vehicles during these months.

Based upon anticipated statewide traffic increases, we are assuming that these trends will continue, thereby compounding traffic problems already in existence; however, traffic will continue to be monitored to determine if these assumptions are correct.



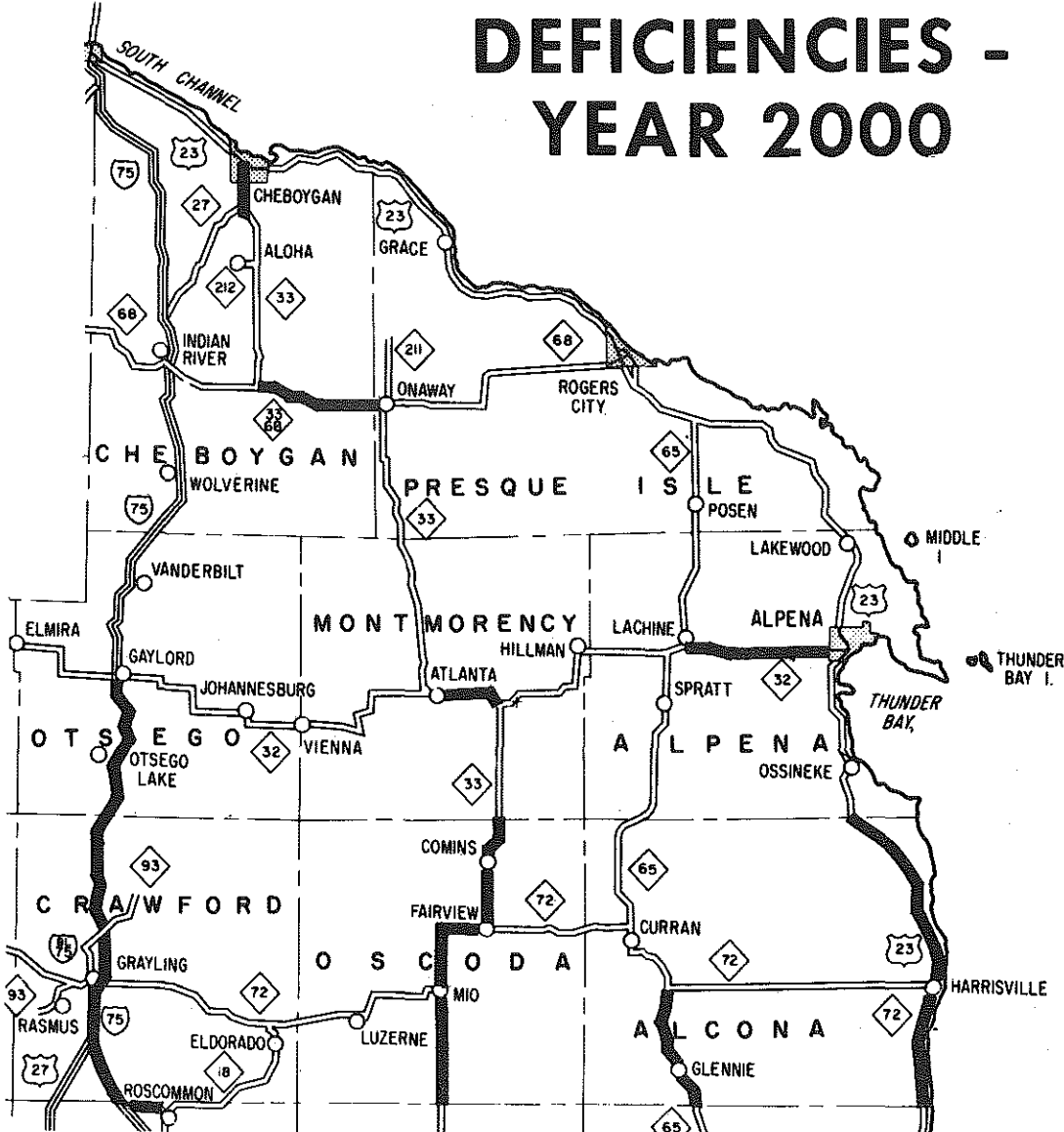
SOURCE:
 Northeast Regional Transportation Study,
 Michigan Department of State Highways and Transportation, 1976.

TRAFFIC CAPACITY DEFICIENCIES - YEAR 2000

Through the use of a computer, average daily traffic volume and design hour volume are predicted for a given year. Average daily traffic volumes are 24-hour volumes averaged over a given year, whereas design hour volumes are the traffic volumes experienced during the 30th highest hour of operation during a given year and to which a highway is originally designed to accommodate. These design hour volumes are then used to analyze the stability of traffic flow through a comparison of volume to capacity.

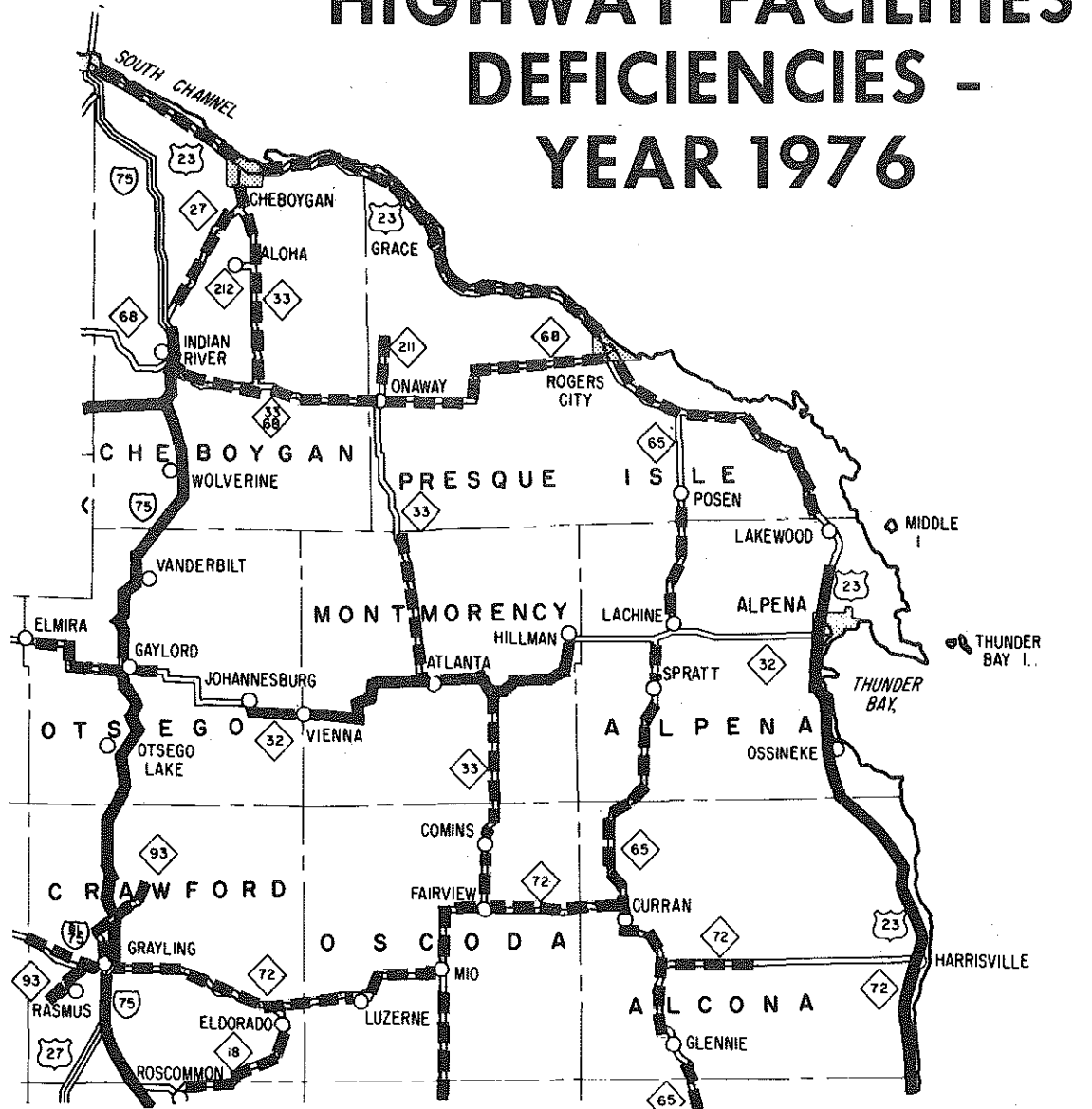
The accompanying exhibit shows projected deficiencies in capacity by the highway system of the area for the year 2000 utilizing highway improvements committed for the year 1980. Deficient roads, represented by black lines, are those which are expected to have conditions which need correction. By projecting the traffic conditions that will probably occur on existing roads in the future, it is possible for planners to determine what type of improvements should be made to provide adequate highway facilities.

SOURCE:
 Northeast Regional Transportation Study,
 Michigan Department of State Highways and Transportation, 1976.



Designated links indicate capacity deficiencies for the year 2000 on the 1980 network which includes improvements committed to that year.

HIGHWAY FACILITIES DEFICIENCIES - YEAR 1976



Deficient Highway Segment
 (Surface, Base, Capacity, or Safety)

Programed or Under Construction
 (Through 1985)

Highway Facility Deficiencies

All state highways are periodically checked. Early detection and correction of deficiencies makes possible the least disruption of traffic.

The Highway Facility Deficiencies exhibit indicates the many miles of state highways in the region which are currently rated "deficient" in one or more of four categories. Of the total trunkline miles in Region 9, 84% have deficiencies in one or more categories which require improvement, compared to the state's 66% requiring some sort of improvement. In Region 9, the predominant deficient mileage is in the safety category, with surface condition close behind. The surface condition is the most noticeable by motorists. It is also the most easily corrected.

In Region 9, of all the trunkline mileage the base category, which refers to the foundation structure of the road, has the lowest number of miles rated critical. Next lowest is the capacity category, which refers to the ability of the road to handle traffic flow. Capacity of deficient trunkline mileage in the Northeast Region is of concern: seasonally oriented recreational traffic on many of the region's highways is several times greater during the summer months than during the off-season.

Programmed improvements on 222 miles of study area routes will correct many of the critically deficient highway segments. Of significance are proposed improvements for US-23, and approximately 35 miles of M-32 between Turtle Lake Road and Hillman.

NON-MOTORIZED TRANSPORTATION

By virtue of present state law, non-motorized transportation facilities - chiefly bicycle paths - are established in conjunction with highway alignments rather than as independent systems. This dependency suggests that warrants for such facilities should be developed after corridor alignments have been determined - during the project planning stage which follows the completed system plan.

Abandoned rail lines may provide the opportunity to construct multi-use trails for non-motorized transportation - which could include not only bicycle travel facilities, but also horseback riding trails. A demonstration project in southern Michigan is under way to test this concept. If successful, such trails can be built in other parts of the state, including the Northeast Region.

Presently in existence, and supported by public law, the Michigan Shore-to-Shore Riding and Hiking Trail meanders through the region. It generally follows the AuSable River wherever possible. A connecting trail runs northward from Grayling to the Elk Hill Trail Camp, and on to M-33 south of Aloha in Hardwood State Forest.



Au Sable River

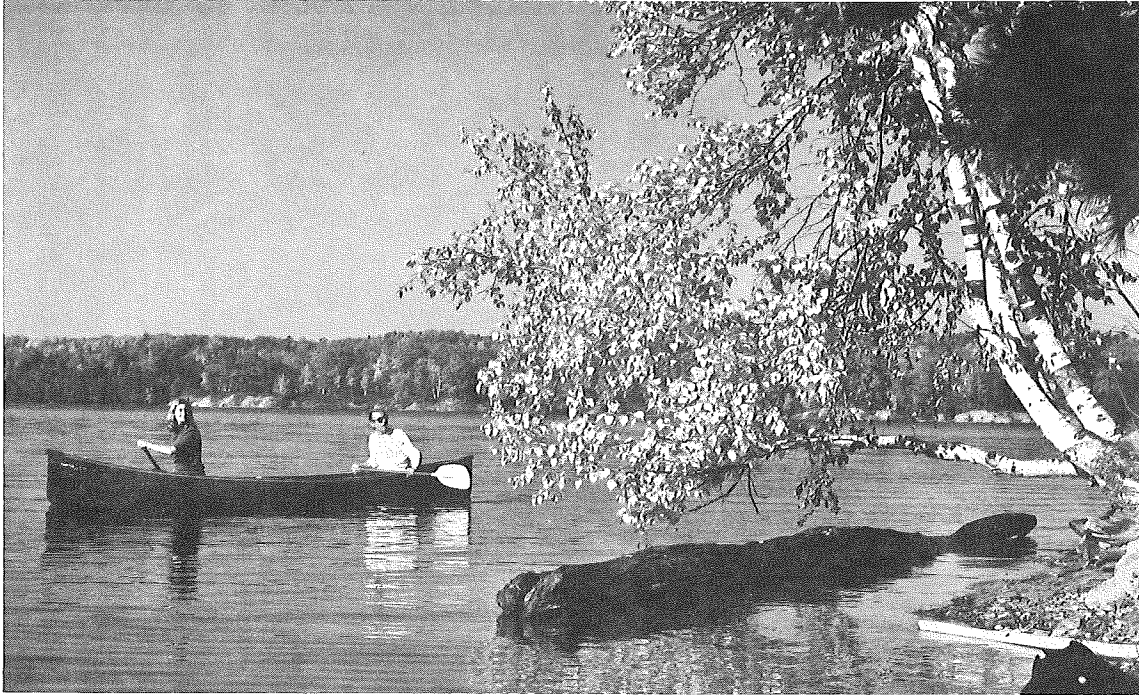


Photo Courtesy of Travel Bureau, Department of Commerce

Mason Chapel, So. Branch Au Sable R., Crawford Co.

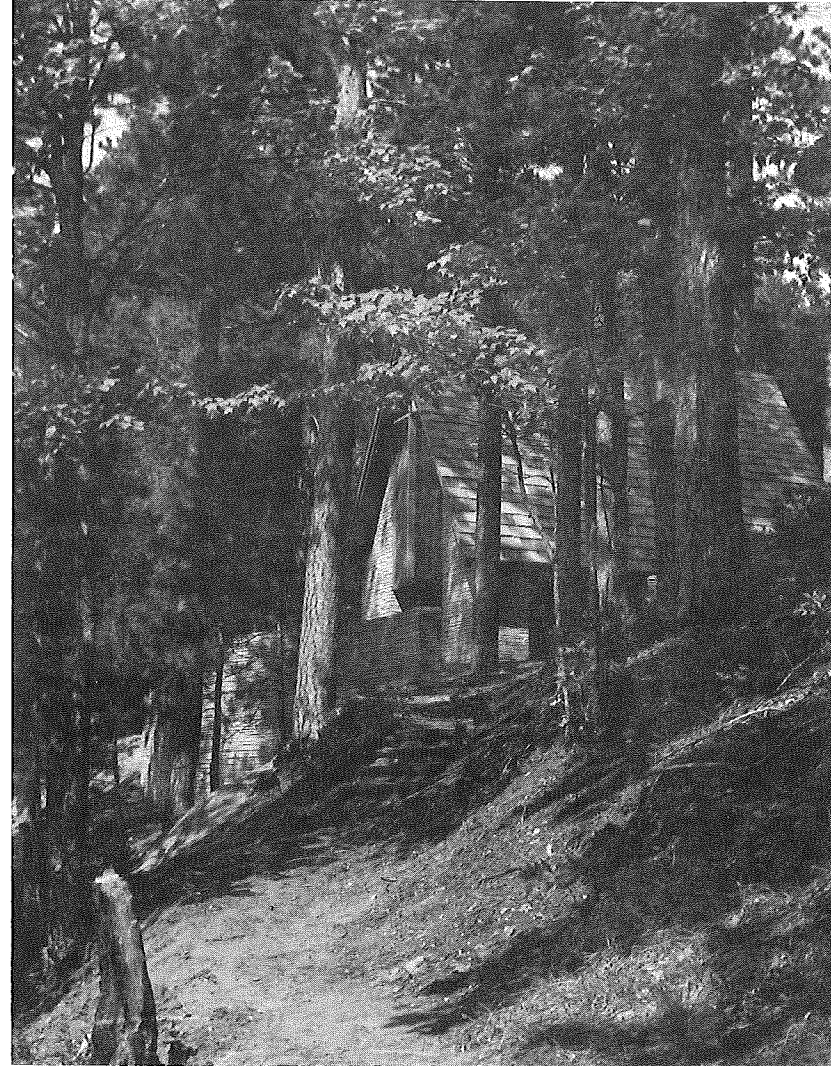


Photo Courtesy of Department of Natural Resources

QUESTIONNAIRE

NORTHEAST MICHIGAN TRANSPORTATION STUDY

MICHIGAN DEPARTMENT OF STATE HIGHWAYS AND TRANSPORTATION

OCTOBER 1976

The purpose of this questionnaire is to identify individual, group and community values and attitudes associated with developing a transportation plan for the Northeast Michigan Region.

1. What is your relationship with the Region?
 - A. Year-round resident
County of residence _____
Town or Township _____
 - B. Seasonal and/or weekend resident
County of residence _____
Town or Township _____
 - C. Tourist/Vacationer/Visitor
Residence (County - State) _____

2. Approximately how many miles do you drive in a year?
 - A. Do not drive
 - B. 1,000 - 5,000 Miles
 - C. 5,000 - 10,000 Miles
 - D. 10,000 - 13,000 Miles
 - E. 13,000 - 16,000 Miles
 - F. 16,000 - 20,000 Miles
 - G. Over 20,000 Miles

3. Approximately how much of this mileage is driven within the County that you reside?
 - A. 0 - 10%
 - B. 11 - 30%
 - C. 31 - 50%
 - D. 51 - 70%
 - E. 71 - 90%
 - F. Over 90%

4. Where do you go to do most of your shopping (groceries, clothing, etc.)?
 - A. Within the township of your residence?
 - B. Within the county of your residence?
 - C. Outside the county of your residence?
 - D. Outside the northeast region?

5. How did you learn of this study?

- A. Television
- B. Radio
- C. Newspaper
- D. Organization affiliation
- E. Word of mouth
- F. Others (specify) _____

6. Did you attend one of the pre-study information centers? Yes No

7. How do you feel you could have been better informed?

8. What are the major transportation related problems in the region?
(Please complete as fully as possible)

9. Age of respondent? (Please check one)

- | | |
|---------------------------------------|----------------------------------|
| <input type="checkbox"/> Less than 16 | <input type="checkbox"/> 40 - 49 |
| <input type="checkbox"/> 16 - 29 | <input type="checkbox"/> 50 - 64 |
| <input type="checkbox"/> 30 - 39 | <input type="checkbox"/> 65 + |

10. Do you belong to a group concerned with planning activities in the Region - environmental, development, sportsman, civic or social, etc.?

Yes No

If YES, name the organization (Address and Phone)

* * *

This Questionnaire should be addressed to either:

Michael Blum
Northeast Michigan Council of Governments
131 Shipp Street, P. O. Box 457
Gaylord, Michigan 49733

517 - 732-3551

or

Larry A. Miller, Team Leader
Northeast Michigan Transportation Study
Michigan Department of State Highways
and Transportation
Post Office Box 30050
Lansing, Michigan 48909

517 - 373-9183